We Claim:

1. A compound of formula 1

$$R^{5}$$
 R^{6}
 R^{6}
 R^{7}
 R^{4}
 R^{3}
 R^{3}

wherein:

10

15

20

A is a group selected from

$$C-C$$
 , $C=C$ and $C=C$

X is an anion with a single negative charge;

 R^1 and R^2 are each independently a C_1 - C_4 -alkyl optionally substituted with hydroxy or halogen; and

R³, R⁴, R⁵, R⁶, R⁷, and R⁸ are each independently hydrogen, C₁-C₄-alkyl, C₁-C₄-alkyloxy, hydroxy, CF₃, CN, NO₂, or halogen,

with the proviso that at least one of the groups R³, R⁴, R⁵, R⁶, R⁷, and R⁸ is not hydrogen.

2. The compounds of formula 1 according to claim 1, wherein:

X⁻ is an anion selected from the group consisting of chloride, bromide, methylsulfate, 4-toluenesulfonate, and methanesulfonate;

 R^1 and R^2 are each independently a group selected from the group consisting of methyl, ethyl, n-propyl, and isopropyl, each optionally substituted by hydroxy or fluorine; and

R³, R⁴, R⁵, R⁶, R⁷, and R⁸ are each independently hydrogen, methyl, ethyl, methyloxy, ethyloxy, hydroxy, fluorine, chlorine, bromine, CN, CF₃, or NO₂.



3. The compound of formula 1 according to claim 1, wherein:

X is bromide;

5

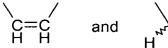
R¹ and R² are each independently methyl or ethyl; and

- R³, R⁴, R⁵, R⁶, R⁷, and R⁸ are each independently hydrogen, methyl, methyloxy, fluorine, chlorine, or bromine.
- 4. The compound of formula 1 according to claim 3, wherein:

R³, R⁴, R⁵, R⁶, R⁷, and R⁸ are each independently hydrogen, fluorine, chlorine, or bromine.

5. The compound of formula $\underline{1}$ according to claim 4, wherein: 10

A is a group selected from





6. The compound of formula 1 according to claim 5, wherein:

R¹ and R² are each methyl; and 15

R³, R⁴, R⁵, R⁶, R, and R⁸ are each independently hydrogen or fluorine.

7. A pharmaceutical composition comprising a compound of formula 1 according to claim 1 and a pharmaceutically acceptable excipient and/or carrier.

8. A pharmaceutical composition comprising a compound of formula 1 according to claim 2 and a pharmaceutically acceptable excipient and/or carrier.

- 9. A pharmaceutical composition comprising a compound of formula 1 according to claim 3 and a pharmaceutically acceptable excipient and/or carrier.
 - 10. A pharmaceutical composition comprising a compound of formula 1 according to claim 4 and a pharmaceutically acceptable excipient and/or carrier.

20

25

25

10

- 11. A pharmaceutical composition comprising a compound of formula **1** according to claim 5 and a pharmaceutically acceptable excipient and/or carrier.
- 12. A pharmaceutical composition comprising a compound of formula <u>1</u> according to claim 6
 and a pharmaceutically acceptable excipient and/or carrier.
 - 13. The pharmaceutical composition according to claim 7, further comprising an additional active substance selected from the group consisting of betamimetics, antiallergic agents, PAF-antagonists, leukotriene-antagonists, and steroids.
 - 14. The pharmaceutical composition according to claim 8, further comprising an additional active substance selected from the group consisting of betamimetics, antiallergic agents, PAF-antagonists, leukotriene-antagonists, and steroids.
- 15. The pharmaceutical composition according to claim 9, further comprising an additional active substance selected from the group consisting of betamimetics, antiallergic agents, PAF-antagonists, leukotriene-antagonists, and steroids.
 - 16. The pharmaceutical composition according to claim 10, further comprising an additional active substance selected from the group consisting of betamimetics, antiallergic agents, PAF-antagonists, leukotriene-antagonists, and steroids.
 - 17. The pharmaceutical composition according to claim 11, further comprising an additional active substance selected from the group consisting of betamimetics, antiallergic agents, PAF-antagonists, leukotriene-antagonists, and steroids.
 - 18. The pharmaceutical composition according to claim 12, further comprising an additional active substance selected from the group consisting of betamimetics, antiallergic agents, PAF-antagonists, leukotriene-antagonists, and steroids.

30

20

- 19. A method of treating diseases in which anticholinergics may provide a therapeutic benefit, comprising administering to a host in need of such treatment a compound of formula 1 according to claim 1.
- 5 20. A mathod of treating diseases in which anticholinergics may provide a therapeutic benefit, comprising administering to a host in need of such treatment a compound of formula 1 according to claim 2.
 - 21. A method of treating diseases in which anticholinergies may provide a therapeutic benefit, comprising administering to a host in need of such treatment a compound of formula 1 according to claim 3.
 - 22. A method of treating diseases in which anticholinergies may provide a therapeutic benefit, comprising administering to a host in need of such treatment a compound of formula $\underline{1}$ according to claim $\underline{4}$.
 - 23. A method of treating diseases in which anticholinergies may provide a therapeutic benefit, comprising administering to a host in need of such treatment a compound of formula $\underline{1}$ according to claim 5.
 - 24. A method of treating diseases in which anticholinergies may provide a therapeutic benefit, comprising administering to a host in need of such treatment a compound of formula 1 according to claim 6.
- 25. A method of treating asthma, COPD, vagally induced sinus bradycardia, heart rhythm disorders, spasms in the gastrointestinal tract, spasms in the urinary tract, or menstrual disorders, comprising administering to a host in need of such treatment a compound of formula 1 according to claim 1.
- 30 26. A method of treating asthma, COPD, vagally induced sinus bradycardia, heart rhythm disorders, spasms in the gastrointestinal tract, spasms in the urinary tract, or menstrual

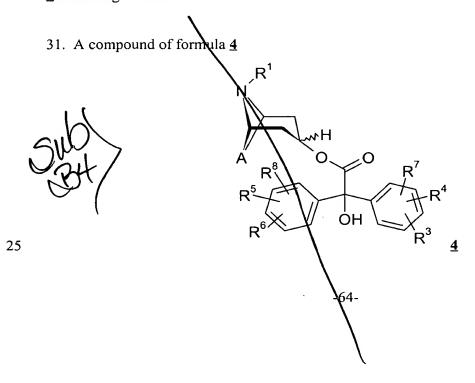
15

20



disorders, comprising administering to a host in need of such treatment a compound of formula 1 according to claim 2.

- 27. A method of treating asthma, COPD, vagally induced sinus bradycardia, heart rhythm disorders, spasms in the gastrointestinal tract, spasms in the urinary tract, or menstrual disorders, comprising administering to a host in need of such treatment a compound of formula 1 according to claim 3.
- 28. A method of treating asthma, COPD, vagally induced sinus bradycardia, heart rhythm disorders, spasms in the gastrointestinal tract, spasms in the urinary tract, or menstrual disorders, comprising administering to a host in need of such treatment a compound of formula 1 according to claim 4.
- 29. A method of treating asthma, COPD, vagally induced sinus bradycardia, heart rhythm disorders, spasms in the gastrointestinal tract, spasms in the urinary tract, or menstrual disorders, comprising administering to a host in need of such treatment a compound of formula 1 according to claim 5.
- 30. A method of treating asthma, COPD, vagally induced sinus bradycardia, heart rhythm disorders, spasms in the gastrointestinal tract, spasms in the urinary tract, or menstrual disorders, comprising administering to a host in need of such treatment a compound of formula 1 according to claim 6.



20

A is a group selected from







is a C_1 - C_4 -alkyl optionally substituted with hydroxy or halogen; and , R^4 , R^5 , R^6 , R^7 , and R^8 are each independently hydrogen, C_1 - C_4 -alkyl, C_1 - C_4 -alkyloxy, hydroxy, CF_3 , CN, NO_2 , or halogen,

with the proviso that a least one of the groups R^3 , R^4 , R^5 , R^6 , R^7 , and R^8 is not hydrogen.

10 32. The compound of formula 4 according to claim 31, wherein:

R¹ is a group selected from the group consisting of methyl, ethyl, n-propyl, and isopropyl, each optionally substituted by hydroxy or fluorine;

R³, R⁴, R⁵, R⁶, R⁷, and R⁸ are each independently hydrogen, methyl, ethyl, methyloxy, ethyloxy, hydroxy, fluorine, chlorine, bromine, CN, CF₃, or NO₂.

33. The compound of formula 4 according to claim 31, wherein:

R¹ is methyl or ethyl; and

R³, R⁴, R⁵, R⁶, R⁷, and R⁸ are each independently hydrogen, methyl, methyloxy, fluorine, chlorine, or bromine.

34. The compound of formula 4 according to claim 33, wherein:

R³, R⁴, R⁵, R⁶, R⁷, and R⁸ are each independently hydrogen, fluorine, chlorine, or bromine.

35. The compound of formula 4 according to claim 31, wherein:

R³, R⁴, R⁵, R⁶, R⁷, and R⁸ are each independently hydrogen or fluorine. 25

36. A compound of formula 3



wherein:

5

R is C_1 - C_4 -alkyl; and

R³, R⁴, R⁵, R⁶, R⁷, and R⁸ are each independently hydrogen, C₁-C₄-alkyl, C₁-C₄-alkyloxy, hydroxy, CF₃, CN, NO₂, or halogen,

with the proviso that at least one of the groups R³, R⁴, R⁵, R⁶, R⁷, and R⁸ is not hydrogen.

- 37. The compound of formula 3 according to claim 36, wherein:
- 10 R³, R⁴, R⁵, R⁶, R⁷, and R⁸ are each independently hydrogen, methyl, ethyl, methyloxy, ethyloxy, hydroxy, fluorine, chlorine, bromine, CN, CF₃, or NO₂.
 - 38. The compound of formula <u>3</u> according to claim 36, wherein:
 - R³, R⁴, R⁵, R⁶, R⁷, and R⁸ are each independently hydrogen, methyl, methyloxy, fluorine, chlorine, or bromine.
 - 39. The compound of formula 3 according to claim 36, wherein:
 - R³, R⁴, R⁵, R⁶, R⁷, and R⁸ are each independently hydrogen, fluorine, chlorine, or bromine.
- 40. The compound of formula 3 according to claim 36, wherein:
 - R³, R⁴, R⁵, R⁶, R⁷, and R⁸ are each independently hydrogen or fluorine.